ABSTRACTS

Edited by Glen Van Brummelen

The purpose of this department is to give sufficien information about the subject matter of each publication to enable users to decide whether to read it. It is our intention to cover all books, articles, and other materials in the field

Books for abstracting and eventual review should be sent to this department. Materials should be sent to Glen Van Brummelen, Bennington College, Bennington, VT 05201, U.S.A. (E-mail: gvanbrum@bennington.edu)

Readers are invited to send reprints, autoabstracts, corrections, additions, and notices of publications that have been overlooked. Be sure to include complete bibliographic information, as well as transliteration and translation for non-European languages. We need volunteers willing to cover one or more journals for this department.

In order to facilitate reference and indexing, entries are given abstract numbers which appear at the end following the symbol #. A triple numbering system is used: the firs number indicates the volume, the second the issue number, and the third the sequential number within that issue. For example, the abstracts for Volume 20, Number 1, are numbered: 20.1.1, 20.1.2, 20.1.3, etc.

For reviews and abstracts published in Volumes 1 through 13 there are an *author index* in Volume 13, Number 4, and a *subject index* in Volume 14, Number 1.

The initials in parentheses at the end of an entry indicate the abstractor. In this issue there are abstracts by Francine Abeles (Kean, NJ), Joe Albree (Montgomery, AL), Ivor Grattan-Guinness (Middlesex, UK), Cal Jongsma (Sioux Center, IA), Karen Hunger Parshall (Charlottesville, VA), Gary Stoudt (Indiana, PA), Kevin VanderMeulen (Hamilton, Canada), David Zitarelli (Philadelphia, PA), and Glen Van Brummelen.

Aaboe, Asger. A New Mathematical Text from the Astronomical Archive in Babylon: BM 36849, in #29.2.164, pp. 179–186. (GVB)   #29.2.1

Abraham, George. *See* #29.2.15.

Abrusci, V. Michele. Hilbert and the Foundations of Mathematics: The Axiomatic Method [in Italian], *Matematiche (Catania)* **55** (2000) suppl. 1, 127–142. Survey of some of Hilbert's writings on axiomatic theories. See the review by Ivor Grattan-Guinness in *Mathematical Reviews* **2001j**:01034. (CJ)   #29.2.2

Accardi, Luigi. Quantum Probability: An Historical Survey, in Gregory Budzban, Philip Feinsilver and Arunava Mukherjea, eds., *Probability on Algebraic Structures*, Providence, RI: American Mathematical Society, 2000, pp. 145–159. A nontechnical survey of developments in quantum probability over the last three decades, concentrating on the contributions of the author and his collaborators. See the review by Kalyanapuram R. Parthasarathy in *Mathematical Reviews* **2001k**:81123. (GVB)   #29.2.3

Akhmedov, A. Astronomy, Astrology, Observatories and Calendars, in C. E. Bosworth and M. S. Asimov, eds., *History of Civilizations of Central Asia*, Paris: UNESCO, 2000, vol. IV, pp. 195–204. An overview of Islamic astronomy and astrology developed in Central Asia, especially the region of Khwarizm. See the review by Emilia Calvo in *Mathematical Reviews* **2001m**:01011. (GSS)   #29.2.4

Akritas, Alkiviadis G. *See* #29.2.94.

Alberts, Gerard. Maintaining Freedom of Choice [in Dutch], *Nieuw Archief voor Wiskunde* (5) **2** (1) (2001), 36–41. The interaction between the mathematical and political careers of Guus Zoutendijk is discussed. (GVB)   #29.2.5

Alvarez Jimenez, Carlos. Mathematical Analysis and Analytical Science, in Michael Otte and Marco Panza, eds., *Analysis and Synthesis in Mathematics*, Dordrecht: Kluwer, 1997, pp. 103–145. A discussion of the transition from geometric to analytic methods in mathematics and the physical sciences beginning with Euler's treatment of functions and series, proceeding to the mechanics of Lagrange and Laplace and the theory of heat f ow of Fourier, and concluding with the fundamental ideas of continuity and convergence of Bolzano and Cauchy. See the review by F. Smithies in *Mathematical Reviews* **2001k:**01029. (JA) #29.2.6

Amer, Mahomed. *See #29.2.64.*

Amunátegui, Godofredo Iommi. *See #29.2.127.*

Anile, Angelo Marcello. Current Problems in Mathematical Physics: The Original Contribution of David Hilbert, *Matematiche (Catania)* **55** (2000), suppl. 1, 59–74. Hilbert's work in the kinetic theory of gases has proved to be crucial in the development of research in mathematical physics. (GVB) #29.2.7

Arnol'd, Vladimir. Dynamical Systems, in Jean-Paul Pier, ed., *Development of Mathematics 1950–2000*, Basel: Birkhäuser, 2000, pp. 33–61. An overview of the development of the theory of dynamical systems in the 20th century based on examples illustrating how the theory connects with other topics in applied mathematics. Includes the author's interesting remarks and commentary. See the review by Coraci P. Malta in *Mathematical Reviews* **2001m**:37001. (GSS) #29.2.8

Artmann, Benno. Euclid's and Hilbert's Foundations of Geometry, *Matematiche (Catania)* **55** (2000), suppl 1, 143–160. This article attempts to explain Hilbert's line from his 1898/1899 lecture notes ". . . we will be led. . . to appreciate the acute insight of this ancient mathematician . . . ." See the review by James J. Tattersall in *Mathematical Reviews* **2001m**:01027. (GSS) #29.2.9

Artmann, Benno. *See also #29.2.173.*

Bain, Jonathan. *See #29.2.49.*

Baldwin, John. Finite and Inf nite Model Theory—A Historical Perspective, *Logic Journal of the IGPL* **8** (5) (2000), 605–628. Discusses the historical development of contemporary model theory. See the review by G. Cherlin in *Mathematical Reviews* **2001j**:03064. (CJ) #29.2.10

Barenblatt, G. I. George Keith Batchelor (1920–2000) and David George Crighton (1942–2000) Applied Mathematicians, *Notices of the American Mathematical Society* **48** (2001), 800–806. An account of the work of two former chairs of DAMTP (the Department of Applied Mathematics and Theoretical Physics of Cambridge University), emphasizing Batchelor's role in combining experiments with his theoretical study of turbulence. (KVM) #29.2.11

Beeley, Philip A. *See #29.2.181.*

Belavkin, V. P. Quantum Probabilities and Paradoxes of the Quantum Century, *Infinit Dimensional Analysis, Quantum Probability and Related Topics* **3** (4) (2000), 577–610. Discusses the historical development of quantum theory from its early beginnings to recent work. See the review by Andreas Boukas in *Mathematical Reviews* **2001j**:81002. (CJ) #29.2.12

Bellosta, Hélène. Ibrāhīm ibn Sinān: Apollonius Arabicus [in French], in Ahmad Hasnawi, Abdelali Elamrani-Jamal, and Maroun Aouad, eds., *Perspectives Arabes et Médiévales sur la Tradition Scientifiqu et Philosophique Grecque*, Leuven: Peeters Éditions/Paris: Institut du Monde Arabe, 1997, pp. 31–48. Discusses passages by 10th century Arabic geometer Ibrāhīm ibn Sinān relating to Apollonius's lost works. See the review by J. Lennart Berggren in *Mathematical Reviews* **2001j**:01010. (CJ) #29.2.13

Berg, Jan. *See #29.2.21.*

Berge, Claude. La Théorie des Graphes, in Jean-Paul Pier, ed., *Development of Mathematics 1950–2000*, Basel: Birkhäuser, 2000, pp. 135–147. A survey of important developments in graph theory during the second half of the 20th century. See the review by Robin J. Wilson in *Mathematical Reviews* **2001k:**05054. (JA) #29.2.14

Berggren, J. Lennart; and Jones, Alexander. *Ptolemy's Geography. An Annotated Translation of the Theoretical Chapters*, Princeton, NJ: Princeton Univ. Press, 2000, xiv+192 pp., $39.50. By the author of the *Almagest*, the

Geography was "the best reference work on the subject" for 15 centuries. See the review by George Abraham in *Mathematical Reviews* **2001k:**01006. (JA)   #29.2.15

Berggren, J. Lennart.   *See also* #29.2.13, #29.2.137, and #29.2.138.

Berlekamp, Elwyn.   The Performance of Block Codes, *Notices of the American Mathematical Society* **49** (2002), 17–22. An overview of the impact of the work of Claude Shannon regarding block codes. (KVM)   #29.2.16

Berlekamp, Elwyn.   *See also* #29.2.69.

Berlinski, David.   *Newton's Gift: How Sir Isaac Newton Unlocked the System of the World*, New York: Free Press, 2000, xviii+217 pp., $24.00. Based on "a limited choice of secondary sources," this popular treatment of Newton's mathematics and natural philosophy unfortunately contains a number of inaccuracies. See the review by Massimo Galuzzi in *Mathematical Reviews* **2001k:**01053. (JA)   #29.2.17

Binder, Christa.   Die Zeit von Heinrich Schreyber in Wien [The Era of Heinrich Schreyber in Vienna], in #29.2.189, pp. 117–127. (GVB)   #29.2.18

Blay, Michel; and Nicolaidis, Efthymios, eds.   *L'Europe des Sciences: Constitution d'un Espace Scientifique*, Paris: Éditions du Seuil, 2001, 437 pp. This collection of essays by 15 specialists treats not the development of mathematics *per se* but rather the more general development of science in Europe. The first half of the book covers the Greek origins of European science, through the Middle Ages and Scientific Revolution, to the period of professionalization in the 19th century. The second half has separate chapters treating the institutionalization of the sciences in Russia, the Iberian peninsula, Scandinavia, the Balkans, and Hungary. (KHP)   #29.2.19

Boas, Harold P.   *See* #29.2.48.

Bodanis, David. $E = mc^2$: *A Biography of the World's Most Famous Equation*, New York: Walker and Co., 2000, x+337 pp., $25. Contains a popular history of special relativity, at an elementary level. (CJ)   #29.2.20

Bolzano, Bernard.   *Bernard Bolzano—Gesamtausgabe. Reihe I. Schriften. Band 14. Teil 3*, edited by Jan Berg, Stuttgart: Friedrich Frommann Verlag Günther Holzboog, 2000, 307 pp. Another volume in Bolzano's collected works dealing with Bolzano's theory of knowledge including logic and how the sciences should be presented to students. Of interest to those with a pedagogical concern for Bolzano's work. See the review by Joseph W. Dauben in *Mathematical Reviews* **2001m:**01071. (GSS)   #29.2.21

Bolzano, Bernard.   *Bernard Bolzano—Gesamtausgabe. Reihe II. Nachlass A. Nachgelassene Schriften. Band 10. Teil 1. Grössenlehre IV*, edited by Bob van Rootselaar, Stuttgart: Friedrich Frommann Verlag Günther Holzboog, 2000, 197 pp. Another volume in Bolzano's collected works dealing with Bolzano's theory of functions, including continuous and differentiable functions, the intermediate value theorem, uniform continuity, and applications of the "Bolzano–Weierstrass theorem." Also includes material on series. See the review by Joseph W. Dauben in *Mathematical Reviews* **2001m:**01070. (GSS)   #29.2.22

Bonelli, Federico; and Ghione, Franco.   The Divine Proportion of Luca Pacioli and his CD-ROM, in #29.2.52, pp. 54–59. (GVB)   #29.2.23

Booth, A. D.   *See* #29.2.88 and #29.2.174.

Borzacchini, Luigi.   The Sophist: Genesis of Formal Thought in Greek Philosophy and Mathematics, in #29.2.52, pp. 87–105. (GVB)   #29.2.24

Boukas, Andreas.   *See* #29.2.12.

Bowen, Alan C.   *See* #29.2.68.

Brack-Bernsen, Lis.   Goal-Year Tablets: Lunar Data and Predictions, in #29.2.164, pp. 149–177. (GVB)   #29.2.25

Britton, John P.   Lunar Anomaly in Babylonian Astronomy, in #29.2.164, pp. 187–254. (GVB)   #29.2.26

Brown, E. H.; Cohen, F. R.; Gehring, F. W.; Miller, H. R.; and Taylor, B. A. Franklin P. Peterson (1930–2000), *Notices of the American Mathematical Society* **48** (2001), 1161–1168. An account of the life and work of an algebraic topologist and former AMS treasurer. (KVM) #29.2.27

Buchwald, Jed Z. A Potential Disagreement between Helmholtz and Hertz, *Archive for History of Exact Sciences* **55** (2001), 365–393. What might have appeared as a confict in electromagnetic feld theory between Helmholtz and his student Hertz in the late 1870s is resolved mathematically. Contains extensive references. See the review by Llewelyn G. Chambers in *Mathematical Reviews* **2001k:**01032. (JA) #29.2.28

Buckingham, Paul. Mathematics as a Tool for Economic and Cultural Developments: The Philosophical Views of the Leaders of the Moscow Mathematical Society, 1867–1905, *Michigan Academician* **31** (1999), 33–44. This paper summarizes the careers and philosophical opinions of N. V. Bugaev (1837–1903) and P. A. Nekrasov (1858–1924) as they promoted mathematics as an agency for Russian economic development. See the review by Roman Murawski in *Mathematical Reviews* **2001k:**01033. (JA) #29.2.29

Bulirsch, Roland. Constantin Carathéodory, Leben und Werk, *Bayerische Akademie der Wissenschaften. Mathematisch-Naturwissenschaftlische Klasse. Sitzungsberichte* **1998**, 27–59. A biographical study that traces the mathematical work of Carathéodory (1873–1950). Photos and copies of some of his correspondence and manuscripts are included. See the review by Bernhard Neumann in *Mathematical Reviews* **2001k:**01054. (JA) #29.2.30

Busard, H. L. L. Über Zwei Algorismus-Schriften aus dem 13. Jahrhundert [On Two Algorism Manuscripts from the 13th Century], in Menso Folkerts and Richard Lorch, eds., *Sic Itur Ad Astra: Studien zur Geschichte der Mathematik un Naturwissenschaften. Festschrift für den Arabisten Paul Kunitzsch zum 70 Geburtstag*, Wiesbaden: Harrassowitz Verlag, 2000, pp. 91–137. Critical editions of two 13th century algorism manuscripts ascribed to Jordanus Nemorarius by Gustaf Enestrom. See the review by Warren Van Egmond in *Mathematical Reviews* **2001m:**01015. (GSS) #29.2.31

Bushell, P. J.; and Edmunds, D. E. Twenty-Five Years Ago: The Durham Symposium on Partial Differential Equations, *Notices of the American Mathematical Society* **48** (2001), 1338–1339. A photograph of the participants in the symposium. (KVM) #29.2.32

Butcher, J. C. Numerical Methods for Ordinary Differential Equations in the 20th Century, *Journal of Computational and Applied Mathematics* **125** (1–2) (2000), 1–29. Begins with late 19th-century contributions by F. Bashforth, J. C. Adams and C. Runge and covers the modern theory of linear multistep methods, Runge–Kutta methods, stiff problems, order stars, nonlinear stability, and early software developments. See the review by W. C. Rheinboldt in *Mathematical Reviews* **2001k:**65004. (GVB) #29.2.33

Butzer, Paul L.; Higgins, J. R.; and Stens, R. L. Sampling Theory of Signal Analysis, in Jean-Paul Pier, ed., *Development of Mathematics 1950–2000*, Basel: Birkhäuser, 2000, pp. 193–234. A survey article on the Whittaker–Kotelnikov–Shannon sampling theorem written by signifcant contributors to the feld. The survey includes the history of the development of sampling theory and generalizations of the Whittaker–Kotelnikov–Shannon sampling theorem. See the review by Ahmed I. Zayed in *Mathematical Reviews* **2001m:**94026. (GSS) #29.2.34

Calvo, Emilia. *See* #29.2.4 and #29.2.106.

Catanese, Fabrizio. Hilbert and the Theory of Invariants [in Italian], *Matematiche (Catania)* **55** (2000), suppl. 1, 25–46. A nice introduction to the theory of invariants and the contributions of Hilbert. Includes signifcance of these results to modern research and an extensive bibliography. See the review by Doru Stefanescu in *Mathematical Reviews* **2001m:**01028. (GSS) #29.2.35

Catto, Isabelle. *See* #29.2.156.

Chabas, José. *See* #29.2.131.

Chambers, Llewelyn G. *See* #29.2.28.

Charbonneau, Louis. *See* #29.2.193.

Cherlin, G. *See* #29.2.10.

Chihara, Charles.   Frege's and Bolzano's Rationalist Conceptions of Arithmetic, *Revue d'Histoire des Sciences* **52** (3–4) (1999), 343–361. Compares Frege's and Bolzano's rationalist conceptions of arithmetic; concludes with an analysis of their views in the light of Gödel's f rst incompleteness theorem. (GVB)   #29.2.36

Christianides, Giannes.   *See* #29.2.180.

Christianidis, Jean.   The Use of Letters to Represent Numbers and the Algebraic Symbolism [in Greek], *Neusis* **5** (1996), 83–90. Argues that the use of letters to represent numbers in Aristotle, Euclid, and their medieval commentators does not constitute a genuine algebraic symbolism. Inspired by an article by Kurt Vogel, reprinted in the same issue (#29.2.183). (GVB)   #29.2.37

Coello Coello, Carlos A.   A Brief History of XXth Century Computing: The Great Contributions of Mathematicians [in Spanish], *Miscelánea Matemática* **31** (2000), 29–60. A survey of the role of mathematicians in the development of computing, including the works of Shannon, Post, von Neumann, Kleene, Cook, and Levin. See the review by Manuel Ojeda-Aciego in *Mathematical Reviews* **2001m**:01035. (GSS)   #29.2.38

Cohen, Ezechiel G. D.   Boltzmann and Statistical Mechanics, in *Boltzmann's Legacy 150 Years After his Birth*, Rome: Accademia Nazionale dei Lincei, 1997, pp. 9–23. Historical and philosophical discussion of Boltzmann's two views of his work on the second law of thermodynamics. See the review by M. Lawrence Glasser in *Mathematical Reviews* **2001j**:82002. (CJ)   #29.2.39

Cohen, F. R.   *See* #29.2.27.

Console, Sergio.   *See* #29.2.47.

Cooke, Roger L.   *See* #29.2.129, #29.2.144, and #29.2.182.

Corrales-Rodrigáñez, Capi.   *See* #29.2.43.

Corry, Leo.   *See* #29.2.110.

Cover, T. M.   *See* #29.2.69.

D'Ambrosio, Ubiratan.   *See* #29.2.170.

Da Silva, Jairo José.   Husserl's Two Notions of Completeness: Husserl and Hilbert on Completeness and Imaginary Elements in Mathematics, *Synthese* **125** (2000), 417–438. In 1901, when Husserl tried to account for imaginaries in mathematics, he introduced, "independently of Hilbert, two notions of 'def niteness'" that were closely related to Hilbert's treatment of completeness. See the review by Victor V. Pambuccian in *Mathematical Reviews* **2001k**:01049. (JA)   #29.2.40

Dahan Dalmedico, Amy.   Pur Versus Appliqué? Un Point de Vue d'Historien sur une "Guerre d'Images", *Gazette des Mathématiciens* **80** (1999), 31–46. Since the 1950s, pure and applied mathematics have waged a "war of images." Institutional, sociological, and epistemological aspects of this conf ict are discussed. See the review by Pierre Kerszberg in *Mathematical Reviews* **2001k:**00002. (JA)   #29.2.41

Dale, A. I.   *See* #29.2.85.

Danilenko, A. I.   *See* #29.2.162.

Dauben, Joseph W.   *See* #29.2.21 and #29.2.22.

Dawson, John W., Jr.   *See* #29.2.168.

De Groot, J.   Aspects of Aristotelian Statics in Galileo's Dynamics, *Studies in History and Philosophy of Science* **31A** (4) (2000), 645–664. Examines the geometrical arguments in Galileo's work on dynamics to unearth the inf uence of the Aristotelian mechanical problems. (GVB)   #29.2.42

De la Peña, José Antonio.   Algebra in the XXth Century [in Spanish], *Miscelánea Matemática* **32** (2000), 51–67. A description of the directions of research in algebra during the 20th century, with emphasis on group theory and the inf uence of algebraic developments in school curricula. See the review by Capi Corrales-Rodrigáñez in *Mathematical Reviews* **2001m**:01036. (GSS)   #29.2.43

De Leeuw, K.   Johann Friedrich Euler (1741–1800): Mathematician and Cryptologist at the Court of the Dutch Stadholder William V, *Cryptologia* **25** (2001), 256–274. This Euler was a nephew of Leonhard and a notable practitioner of this combinatoric black art. The author includes pages from Johann's codebook in his account. (IGG)   #29.2.44

De Rijk, L. M.   *See* #29.2.181.

Demidov, S. S. and Levshin, B. V., eds.   *The Case of Academician Nikoli Nikolaevich Luzin* [in Russian], St. Petersburg: Russkii Khristianskii Gumanitarnyi Institut, 1999, 312 pp. This is a thorough account of the "Luzin affair," from its background in Russian mathematics immediately following World War I and in Bolshevik and Soviet politics to its culmination in June and July 1936, when Nikoli Luzin was censored by the Steklov Institute and lost his university position. Includes copies of several relevant primary documents and letters. See the review by F. Smithies in *Mathematical Reviews* **2001k:**01066. (JA)   #29.2.45

Densmore, Dana.   *See* #29.2.96.

Dieudonné, Jean.   L'École Mathématique Française du XXe Siècle, in Jean-Paul Pier, ed., *Development of Mathematics 1950–2000*, Basel: Birkhäuser, 2000, pp. 329–357. A summary, arranged by topics, of the major contributions of French mathematicians during the second half of the 20th century. Photos of some French mathematicians are included. See the review by Doru Stefanescu in *Mathematical Reviews* **2001k:**01043. (JA)   #29.2.46

Do Carmo, Manfredo Perdigão.   Research on Differential Geometry in Brazil, in J. L. M. Barbosa and K. Tenenblat, eds., *X Escola de Geometria Diferencial* [*10th School on Differential Geometry*] [in Portuguese], pp. 1–28. A survey on research in differential geometry (Riemannian, conformal, and projective geometry) developed in Brazil from 1800 to 1983, written by an eyewitness to the past 50 years of the development. See the review by Sergio Console in *Mathematical Reviews* **2001m:**53004. (GSS)   #29.2.47

Dolbeault, Pierre.   Variétés et Espaces Analytiques Complexes, in Jean-Paul Pier, ed., *Development of Mathematics 1950–2000*, Basel: Birkhäuser, 2000, pp. 359–436. Historical survey of the field of several complex variables including photographs of the principal players and an extensive bibliography. See the review by Harold P. Boas in *Mathematical Reviews* **2001m:**32002. (GSS)   #29.2.48

Donahue, William H.   *See* #29.2.96.

Earman, John.   Lambda: The Constant That Refuses to Die, *Archive for History of Exact Sciences* **55** (2001), 189–220. This "critical history" of the constant Λ begins with its place in 19th century Newtonian cosmology. Controversies over whether or not Λ had roles to play in general relativity are discussed, and this paper "ends with an overview of the resurgence of interest in Λ." See the review by Jonathan Bain in *Mathematical Reviews* **2001k:**83001. (JA)   #29.2.49

Edmunds, D. E.   *See* #29.2.32.

Eichler, Birgit.   Sprachwissenschaftliche Anmerkungen zu Adam Ries und Heinrich Grammateus [Linguistic Comments on Adam Ries and Heinrich Grammateus], in #29.2.189, pp. 131–141. (GVB)   #29.2.50

Elworthy, K. David.   Geometric Aspects of Stochastic Analysis, in Jean-Paul Pier, ed., *Development of Mathematics 1950–2000*, Basel: Birkhäuser, 2000, pp. 437–484. A survey of the interaction between geometry and stochastic analysis. See the review by Shi Zan Fang in *Mathematical Reviews* **2001k:**60110. (GVB)   #29.2.51

Emmer, Michele, ed.   *Mathematics and Culture 2* [in Italian], Milan: Springer-Verlag Italia, 1999, iv+119 pp. A collection of papers from a conference held in Venice in April 1998. Papers with historical content are listed here as #29.2.23, #29.2.24, #29.2.121, and #29.2.172. (GVB)   #29.2.52

Epple, Moritz.   Styles of Argumentation in Late 19th Century Geometry and the Structure of Mathematical Modernity, in Michael Otte and Marco Panza, eds., *Analysis and Synthesis in Mathematics*, Dordrecht: Kluwer, 1997, pp. 177–198. Uses a distinction between abstract and concrete mathematical argumentation to judge the modernity of given pieces of mathematical research. See the review by Bernard Rouxel in *Mathematical Reviews* **2001j:**01029. (CJ)   #29.2.53

Faddeev, L. D.   Modern Mathematical Physics: What It Should Be, in A. Fokas, A. Grigoryan, T. Kibble and B. Zegarlinski, eds., *Mathematical Physics 2000*, London: Imperial College Press, 2000, pp. 1–8. Discusses how

mathematical physics was viewed in the early 20th century by various mathematicians, and explains the author's own views on the goals of the f eld. See the review by George K. Savvidy in *Mathematical Reviews* **2001j**:81001. (CJ) #29.2.54

Fang, Shi Zan. *See* #29.2.51.

Farwig, Reinhard. Die (Un-)Berechenbare Angst des Mathematikers vor dem Fliegen [The Mathematician's (Un-)Predictable Fear of Flying], *Mathematische Semesterberichte* **46** (2) (1999), 155–185. Describes the history, physics, and mathematics of lift, of potential, and of viscous f ows. Covers work of Euler, J. and D. Bernoulli, and d'Alembert and concludes with the Navier–Stokes equations. (GVB) #29.2.55

Fauvel, John. Doris Mary Cannell 1913–2000, *BSHM Newsletter* **42** (2000), 11–14. Obituary of Mary Cannell, whose rediscovery and celebration of the work of George Green did not start until her retirement in 1978. (DEZ) #29.2.56

Fauvel, John. *See also* #29.2.73.

Fernandez Garcia, Francisco R.; Puerto Albandoz, Justo; Jiminez Alcon, Francisco; and Muñoz Prieto, Luis C. Gauge Functions and Portolan Charts, in Blas Pelegrín, ed., *Selected Papers of EWGLA10*, Athens: Constantine Porphyrogenetus International Association, 2000, pp. 67–81. Shows how harbor-f nding (Portolan) charts of the 13th to the 17th centuries are related to gauge functions used in location theory. (CJ) #29.2.57

Floyd, Juliet; and Putnam, Hilary. A Note on Wittgenstein's "Notorious Paragraph" about the Gödel Theorem, *Journal of Philosophy* **97** (11) (2000), 624–632. A look at Wittgenstein's comments on the incompleteness theorem with an interpretation that is consistent with what Gödel proved. See the review by John W. Dawson, Jr. in *Mathematical Reviews* **2001m**:03003. (GSS) #29.2.58

Folkerts, Menso. Zur Bedeutung der Mathematik an der Universität Erfurt im 15. und Fruhen 16. Jahrhundert [On the Importance of Mathematics at the University of Erfurt in the 15th and Early 16th century], in #29.2.189, pp. 13–22. (GVB) #29.2.59

Folkerts, Menso. Frühe Westliche Benennungen der Indisch-Arabischen Ziffern und ihr Vorkommen [Early Western Names for Indian–Arabic Numerals and Their Occurrences], in Menso Folkerts and Richard Lorch, eds., *Sic Itur Ad Astra: Studien zur Geschichte der Mathematik un Naturwissenschaften. Festschrift für den Arabisten Paul Kunitzsch zum 70 Geburtstag*, Wiesbaden: Harrassowitz Verlag, 2000, pp. 216–233. The author establishes that the earliest appearance of these names is found in illustrations attached to abacus texts of the 11th century. The names were then used in the works of Gerland of Besançon and Rudolph of Laon. See the review by Warren Van Egmond in *Mathematical Reviews* **2001m**:01017. (GSS) #29.2.60

Forcada, Miquel. The *Kitāb al-Anwā'* of ᶜArīb b. Saᶜīd and the *Calendar of Cordova*, in Menso Folkerts and Richard Lorch, eds., *Sic Itur Ad Astra: Studien zur Geschichte der Mathematik und Naturwissenschaften. Festschrift für den Arabisten Paul Kunitzsch zum 70 Geburtstag*, Wiesbaden: Harrassowitz Verlag, 2000, pp. 234–251. Discusses various 9th through 11th century Arabic almanacs. See the review by Jan P. Hogendijk in *Mathematical Reviews* **2001j**:01012. (CJ) #29.2.61

Fouvry, Etienne. Cinquante Ans de Théorie Analytique des Nombres. Un Point de Vue Parmi d'Autres: Celui des Méthodes de Crible, in Jean-Paul Pier, ed., *Development of Mathematics 1950–2000*, Basel: Birkhäuser, 2000, pp. 485–514. A survey of the development of sieve methods and their applications in the second half of the 20th century. See the review by G. Greaves in *Mathematical Reviews* **2001k**:11181. (GVB) #29.2.62

Fraser, Craig G. The Background to and Early Emergence of Euler's Analysis, in Michael Otte and Marco Panza, eds., *Analysis and Synthesis in Mathematics*, Dordrecht: Kluwer, 1997, pp. 47–78. The practice of analysis in mathematics is traced from Viète through much 17th-century work and then up to and including Euler's *Methodus inveniendi* (1744). See the review by Karl-Heinz Schlote in *Mathematical Reviews* **2001k:**01030. (JA) #29.2.63

Gallager, R. G. *See* #29.2.69.

Galuzzi, Massimo. *See* #29.2.17 and #29.2.115.

Garro, Ibrahim. Decidability in Mathematics after al-Samaw'al al–Maghribī [in Arabic], *Journal for the History of Arabic Science* **11** (1995/97), 202–195. "The author describes some of the metamathematical arguments

of al-Samaw'al al-Maghribī's book *al-Bāhir f al-Jabr* [12th century]." See the review by Mohamed Amer in *Mathematical Reviews* **2001k:**01013. (JA) #29.2.64

Gavroglu, Kostas. *See* #29.2.156.

Gehring, F. W. *See* #29.2.27.

Ghione, Franco. *See* #29.2.23.

Gingerich, Owen. *See* #29.2.92.

Girard, Jean-Yves. Du Pourquoi an Comment: La Théorie de la Démonstration de 1950 à Nos Jours, in Jean-Paul Pier, ed., *Development of Mathematics 1950–2000*, Basel: Birkhäuser, 2000, pp. 515–545. Beginning with some background remarks on work of Hilbert, Gödel, and Gentzen, the main part of this paper focuses on "achievements and contributions to proof theory of K. Schutte and his school in Munich and of G. Kreisel." See the review by Roman Murawski in *Mathematical Reviews* **2001k:**03125. (JA) #29.2.65

Gispert, Hélène. Réseaux Mathématiques en France dans les Débuts de la Troisième République, *Archive for History of Exact Sciences* **49** (1999), 122–149. The Societé Mathématique de France (SMF) and the Association Française pour l'Avancement des Sciences (AFAS) were both founded in 1872. This paper describes how, over the last decades of the 19th century, the SMF and the mathematics section of the AFAS drifted apart in their scientif c concerns. See the review by M. Zerner in *Mathematical Reviews* **2001k:**01036. (JA) #29.2.66

Gispert, Hélène. Finding the Social in Mathematics and its History. Critical Review: Catherine Goldstein's *A Theorem of Fermat and its Readers*, *Revue d'Histoire des Sciences* **53** (2) (2000), 303–306. One of two essay reviews of Goldstein's book on Fermat, placing it within a longer tradition of the social history of mathematics; see also #29.2.82. See the review by Karl-Heinz Schlote in *Mathematical Reviews* **2001j:**01023b. (CJ) #29.2.67

Givant, Steven. *See* #29.2.169

Glas, Eduard. *See* #29.2.123 and #29.2.146.

Glasser, M. Lawrence. *See* #29.2.39.

Goldstein, Bernard R.; and Bowen, Alan C. The Role of Observations in Ptolemy's Lunar Theories, in #29.2.164, pp. 341–356. (GVB) #29.2.68

Golomb, S. W.; Berlekamp, Elwyn; Cover, T. M.; Gallager, R. G.; Massey, J. L.; and Viterbi, A. J. Claude Elwood Shannon (1916–2001), *Notices of the American Mathematical Society* **49** (2002), 8–16. A memorial account of some of the areas that the "father of information theory" affected with his work. (KVM) #29.2.69

Good, I. J. Turing's Anticipation of Empirical Bayes in Connection with the Cryptanalysis of the Naval Enigma, *Journal of Statistical Computation and Simulation* **66** (2) (2000), 101–111. Describes the use of "Banburismus," a sequential Bayesian procedure invented by Turing, to attack the German Enigma code during World War II. (GVB) #29.2.70

Gorostiza, Luis G. *See* #29.2.103.

Grasshoff, Gerd. Normal Star Observations in Late Babylonian Astronomical Diaries, in #29.2.164, pp. 97–147. (GVB) #29.2.71

Grattan-Guinness, Ivor. *The Search for Mathematical Roots, 1870–1940. Logics, Set Theories and the Foundations of Mathematics from Cantor through Russell to Gödel*, Princeton, NJ: Princeton Univ. Press, 2000, xiv+690 pp., $24.95. "A comprehensive history of the mathematical background, content and impact of the mathematical logic and philosophy of mathematics that B. Russell and A. N. Whitehead developed in *Principia Mathematica*." See the review by Roman Murawski in *Mathematical Reviews* **2001k:**03003. (JA) #29.2.72

Grattan-Guinness, Ivor; and Fauvel, John. Detlef Laugwitz 1932–2000, *BSHM Newsletter* **42** (2000), 15–16. Obituary of the historian of mathematics Detlef Laugwitz, known for his work on inf nite series, the theory of functions, and Bernhard Riemann. (DEZ) #29.2.73

Grattan-Guinness, Ivor.   *See also* #29.2.2 and #29.2.105.

Gray, Jeremy.   Symbols and Suggestions: Communication of Mathematics in Print, *Mathematical Intelligencer* **23** (2) (2001), 59–64. A wide-ranging discussion of the formulation and usage of mathematical notation in the development of mathematics from the 17th to the 20th century. There is an emphasis on the language of ratio and proportion, and logical notation. (FA)   #29.2.74

Gray, Jeremy.   *See also* #29.2.176.

Greaves, G.   *See* #29.2.62.

Grimmett, Geoffrey R.   Percolation, in Jean-Paul Pier, ed., *Development of Mathematics 1950–2000*, Basel: Birkhäuser, 2000, pp. 547–575. An overview of the mathematical theory of percolation including an account of the historical development of the subject. See the review by Neal Maras in *Mathematical Reviews* **2001m**: 60225. (GSS)   #29.2.75

Guggenheimer, H.   *See* #29.2.98.

Guicciardini, Niccolò.   *See* #29.2.96, #29.2.134, and #29.2.192.

Guillaume, Marcel.   *See* #29.2.154.

Guivarc'h, Yves.   Marches Aléatoires sur les Groupes, in Jean-Paul Pier, ed., *Development of Mathematics 1950–2000*, Basel: Birkhäuser, 2000, pp. 577–608. A broad survey of the interactions of probability theory with other disciplines, such as ergodic theory, Lie groups, harmonic analysis and statistical physics. See the review by Marc Peigné in *Mathematical Reviews* **2001k**:60100. (GVB)   #29.2.76

Hantsche, Irmgard, ed.   *Der "Mathematicus": Zur Entwicklung und Bedeutung einer Neuen Berufsgruppe in der Zeit Gerhard Mercators* [*The "Mathematicus": On the Evolution and Signif cance of a Novel Occupational Group at the Time of Gerhard Mercator*], Bochum: Universitätsverlag Dr. N. Brockmeyer, 1996, x+304 pp., DM 49.80. A collection of papers from the 4th Mercator Symposium held at Schloß Krickenbeck. Some of the papers will be abstracted separately. (GVB)   #29.2.77

Hauser, Walter.   *Die Wurzeln der Wahrscheinlichkeitsrechnung: Die Verbindung von Glücksspieltheorie und Statistischer Praxis vor Laplace* [*The Roots of Probability Theory: The Connection Between the Theory of Games of Chance and Statistical Practice before Laplace*], Stuttgart: Franz Steiner Verlag, 1997, 236 pp., DM 78. Analyzes how the theory of games of chance and the practice of statistical reasoning came together between 1657 and 1770 to create probability theory. See the review by Eberhard Knobloch in *Mathematical Reviews* **2001j**:60004. (CJ)   #29.2.78

Hawlitschek, Kurt.   *Johann Faulhaber 1580–1635: Eine Blütezeit der Mathematischen Wissenschaften in Ulm*, Ulm: Stadtbibliothek Ulm, 1995, 376 pp., DM 29.80. Richly documented and well-illustrated survey of Faulhaber's life and work; a detailed scholarly volume on an important f gure of the German Renaissance. See the review by Warren Van Egmond in *Mathematical Reviews* **2001j**:01022. (CJ)   #29.2.79

Hayes, David R.   Leonard Carlitz (1907–1999), *Notices of the American Mathematical Society* **48** (2001), 1322–1324. A brief account of the work and students of Leonard Carlitz, known for his work in f nite f elds. (KVM)   #29.2.80

Heck, Richard G., Jr.   *Grundgesetze der Arithmetik*. I. §10, *Philosophia Mathematica* (3) **7** (3) (1999), 258–292. Devoted to the study of Section 10 of Frege's *Grundgesetze der Arithmetik* (1893). See the review by Roman Murawski in *Mathematical Reviews* **2001j**:03007. (CJ)   #29.2.81

Herreman, Alain.   The Meaning of Mathematical Text. Critical Review: Catherine Goldstein's *A Theorem of Fermat and its Readers*, *Revue d'Histoire des Sciences* **53** (2) (2000), 295–301. One of two essay reviews of Goldstein's book on Fermat, stressing the signif cance of her general historical approach; see also #29.2.67. See the review by Karl-Heinz Schlote in *Mathematical Reviews* **2001j**:01023a. (CJ)   #29.2.82

Hessenbruch, Arne, ed.   *Reader's Guide to the History of Science*, London: Fitzroy Dearborn Publishers, 2000, xxx+934 pp., $135. This guide is in the form of short essays on approximately 500 topics, from individuals to disciplines to institutions and from all branches of science. Each essay is accompanied by a bibliography of the

most important secondary literature. The whole enterprise is designed to assist readers as they enter a f eld or a subject that is outside of their speciality. (JA) #29.2.83

Higgins, J. R. *See* #29.2.34.

Hilpinen, Risto. Aristotelian Syllogistic as a Foundation of C. S. Peirce's Theory of Reasoning, in Demetra Sfendoni-Mentzou, ed., *Aristotle and Contemporary Science*, New York: Peter Lang, 2000, vol. 1, pp. 109–125. Discusses the Aristotelian origins of Peirce's theory of inference. (GVB) #29.2.84

Hogendijk, Jan P. *See* #29.2.61 and #29.2.139.

Holgate, Philip. Studies in the History of Probability and Statistics. XLV. The Late Philip Holgate's Paper: "Independent Functions. Probability and Analysis in Poland between the Wars," *Biometrika* **84** (1) (1997), 159–173. Explores early 20th century attempts by Polish mathematicians to develop a rigorous theory of probability and compares this with the better-known work of Kolmogorov. See the review by A. I. Dale in *Mathematical Reviews* **2001j**:60005. (CJ) #29.2.85

Hunger, Hermann. Non-Mathematical Astronomical Texts and their Relationships, in #29.2.164, pp. 77–96. (GVB) #29.2.86

Hutchinson, Keith. A Strange Fact about Aristotelian Dynamics, in Lodi Nauta and Arjo Vanderjagt, eds., *Between Demonstration and Imagination*, Leiden: Brill, 1999, pp. 269–283. A review of how Aristotle dealt with the observation that the centers of the orbits of most stars are points away from the earth, contrary to what would have been expected from his physics. See the review by Pierre Kerszberg in *Mathematical Reviews* **2001k**:01069. (JA) #29.2.87

Ifrah, Georges. *The Universal History of Computing. From the Abacus to the Quantum Computer*, translated from the French by E. F. Harding, New York: Wiley, 2001, iv+412 pp., $24.95. This book is divided into three parts: "an excellent account of the origin of number systems"; "the development of manual, mechanical, electrical and electronic machines" for computing; and "a philosophical ramble over the implications of the information age." See the critical observations of A. D. Booth in the review in *Mathematical Reviews* **2001k**:01003. (JA) #29.2.88

Israel, Giorgio. The Analytical Method in Descartes' *Géométrie*, in Michael Otte and Marco Panza, eds., *Analysis and Synthesis in Mathematics*, Dordrecht: Kluwer, 1997, pp. 3–34. Insightful analysis of the connection between Descartes's analytic method in the *Regulae* and his approach to geometry. See the review by William R. Shea in *Mathematical Reviews* **2001j**:01024. (CJ) #29.2.89

Jackson, Allyn. Interview with Arnold Ross, *Notices of the American Mathematical Society* **48** (2001), 691–698. An interview with the founder of the Ross Summer Mathematics Program at Ohio State University, reviewing his life from 1906 until 2001. (KVM) #29.2.90

Jaligot, Eric. *See* #29.2.130.

Jardine, Nick. Koyré's Kepler/Kepler's Koyré, *Historia Scientiarum* **38** (2000), 363–376. A review of several features of the history of science that were stimulated by Koyré's "epoch-making study" of Kepler in 1957. See the review by Pierre Kerszberg in *Mathematical Reviews* **2001k**:01024. (JA) #29.2.91

Jiminez Alcon, Francisco. *See* #29.2.57.

Jones, Alexander, ed. *Astronomical Papyri from Oxyrhynchus*, 2 vols., Philadelphia: American Philosophical Society, 1999, xiv+495 pp., $50. Translation of and commentary on astronomical papyri found in an early 20th century dig at the Roman provincial capital of Oxyrhynchus, Egypt; offers a glimpse into the state of astronomy around the time of Ptolemy. See the review by Owen Gingerich in *Mathematical Reviews* **2001j**:01009. (CJ) #29.2.92

Jones, Alexander. A Classif cation of Astronomical Tables on Papyrus, in #29.2.164, pp. 299–340. (GVB) #29.2.93

Jones, Alexander. *See also* #29.2.15.

Jovanovic, B. D. *See* #29.2.178.

Kastanes, N.   *Aspects of Neo-Hellenic Mathematical Education* [in Greek], Thessaloniki: Ekdoseis Mathematike Vivliotheke H. Vafeiadis, 1998, 205 pp. This is a collection of articles "written within the framework of a research team (under the direction of G. Karas)." The period studied is from the 15th century to the middle of the 19th century. Many references. See the review by Alkiviadis G. Akritas in *Mathematical Reviews* **2001k:**01070. (JA)   #29.2.94

Kaunzner, Wolfgang.   Zur Algebra des Heinrich Schreyber [On the Algebra of Heinrich Schreyber], in #29.2.189, pp. 25–64. (GVB)   #29.2.95

Kepler, Johannes.   *Optics*, translated by William H. Donahue and with a preface by Dana Densmore and William H. Donahue, Santa Fe, NM: Green Lion, 2000, xv+459 pp., $55. An English translation of Kepler's 1604 masterpiece. See the review by Niccolò Guicciardini in *Mathematical Reviews* **2001j:**01025. (CJ)   #29.2.96

Kerszberg, Pierre.   *See* #29.2.41, #29.2.87, and #29.2.91.

Kibler, Maurice.   The Master Thesis of Moshé Flato, in Giuseppe Dito and Daniel Sternheimer, eds., *Conférence Moshé Flato 1999*, Dordrecht: Kluwer, 2000, vol. II, pp. 177–184. A paper devoted to the M.Sc. thesis by Moshé Flato and its impact on mathematical physics. See the review by Alexei Zhedanov in *Mathematical Reviews* **2001m:**81102. (GSS)   #29.2.97

Kirschner, Stefan.   Nicolaus Oresmes Kommentar zur *Physik* des Aristoteles, *Sudhoffs Archiv* **1997**, suppl. 39, 465–491. This work contains those questions, in Latin, attributed to Oresme in which he challenged Aristotle's physics, "and an overview over the remaining questions." See the review by H. Guggenheimer in *Mathematical Reviews* **2001k:**01020. (JA)   #29.2.98

Kiselman, Christer O.   Plurisubharmonic Functions and Potential Theory in Several Complex Variables, in Jean-Paul Pier, ed., *Development of Mathematics 1950–2000*, Basel: Birkhäuser, 2000, pp. 655–714. Historical survey on plurisubharmonic functions and related topics from 1942 to 1997. See the review by Norman Levenberg in *Mathematical Reviews* **2001j:**32034. (CJ)   #29.2.99

Knight, F. B.   *See* #29.2.196.

Knobloch, Eberhard.   *See* #29.2.78, #29.2.109, #29.2.124, and #29.2.150.

Lacki, Jan.   The Early Axiomatizations of Quantum Mechanics: Jordan, von Neumann and the Continuation of Hilbert's Program, *Archive for History of Exact Sciences* **54** (4) (2000), 279–318. Describes the early attempts at axiomatizing physical theories such as quantum mechanics. (GVB)   #29.2.100

Lakshmikantham, V.; and Leela, S.   *The Origin of Mathematics*, Lanham, MD: University Press of America, 2000, xii+92 pp., $44 hardbound, $24.50 paperbound. Argues, with some passion, that mathematics has a very long tradition in India and that methods and results obtained there antedate similar ones in European history. See the review by T. Thrivikraman in *Mathematical Reviews* **2001j:**01016. (CJ)   #29.2.101

Lax, P. D.; Magenes, E.; and Temam, R.   Jacques-Louis Lions (1928–2001), *Notices of the American Mathematical Society* **48** (2001), 1315–1321. A review of the contributions of the founder of the French school of applied mathematics, and former president of the French space agency CNES. (KVM)   #29.2.102

Le Gall, Jean-François.   Processus de Branchement, Arbres et Superprocessus, in Jean-Paul Pier, ed., *Development of Mathematics 1950–2000*, Basel: Birkhäuser, 2000, pp. 763–793. A review of the theory of branching processes, dealing especially with superprocesses, genealogy of branching processes, and probabilities on trees. See the review by Luis G. Gorostiza in *Mathematical Reviews* **2001k:**60120. (GVB)   #29.2.103

Leela, S.   *See* #29.2.101.

Levenberg, Norman.   *See* #29.2.99.

Li, Di.   *See* #29.2.167, #29.2.187, and #29.2.188.

Lishevsky, V.   Liberté, Égalité, Géométrie, *Quantum* **11** (2000), 20–24. "This is a short popular article, without bibliography, which outlines the life and research of Gaspard Monge (1749–1818) as a scientist and politician." See the review by Luigi Pepe in *Mathematical Reviews* **2001k:**01058. (JA)   #29.2.104

Lolli, Gabriele. Hilbert and Logic [in Italian], *Matematiche (Catania)* **55** (2000) suppl. 1, 93–126. Reviews Hilbert's contributions to metamathematics and proof theory, both from 1899 to 1905 and after 1917. See the review by Ivor Grattan-Guinness in *Mathematical Reviews* **2001j**:01038. (CJ) #29.2.105

Lorch, Richard. Ibn al-Ṣalāḥ's Treatise on Projection: A Preliminary Survey, in Menso Folkerts and Richard Lorch, eds., *Sic Itur Ad Astra: Studien zur Geschichte der Mathematik und Naturwissenschaften. Festschrift für den Arabisten Paul Kunitzsch zum 70 Geburtstag*, Wiesbaden: Harrassowitz Verlag, 2000, pp. 401–408. Describes a 12th century treatise on the projection of the sphere. See the review by Emilia Calvo in *Mathematical Reviews* **2001j**:01013. (CJ) #29.2.106

Magenes, E. *See* #29.2.102.

Maligranda, Lech; and Wnuk, Witold. Władysław Orlicz (1903–1990) [in Polish], *Roczniki Polskiego Towarzystwa Matematycznego. Seria II. Wiadomosci Matematyczne* **36** (2000), 85–147. W. Orlicz was a member of Banach's famous school of functional analysts in Lwow. The f rst part of this paper is a full account of Orlicz's life and the second part is a "detailed description of research achievements by Orlicz." See the review by J. Musielak in *Mathematical Reviews* **2001k:**01059. (JA) #29.2.107

Malta, Coraci P. *See* #29.2.8.

Mancosu, Paolo. Bolzano and Cournot on Mathematical Explanation, *Revue d'Histoire des Sciences* **52** (3–4) (1999), 429–455. The opposition between explanatory and nonexplanatory proofs is at the heart of the philosophies of mathematics of Bolzano and Cournot. (GVB) #29.2.108

Maras, Neal. *See* #29.2.75.

Martens, Rhonda. *Kepler's Philosophy and the New Astronomy*, Princeton: Princeton Univ. Press, 2000, xiv+201 pp., $37.50. Explores Kepler's mathematical metaphysics and its connection to his work in astronomy; well written, but fails to engage non-English research on the topic. See the review by Eberhard Knobloch in *Mathematical Reviews* **2001j**:01026. (CJ) #29.2.109

Martínez Delgado, Alberto. The Pythagorean Theorem: Originality of the Proofs of E. García Quijano (1848) [in Spanish], *Gaceta de la Real Sociedad Matemática Española* **3** (2) (2000), 277–296. A presentation of three proofs of the Pythagorean theorem published in 1848 by Evaristo García Quijano, professor of mathematics at the naval academy in Cadiz. See the review by Leo Corry in *Mathematical Reviews* **2001m**:01032. (GSS) #29.2.110

Massey, J. L. *See* #29.2.69.

McLarty, Colin. Richard Courant in the German Revolution, *Mathematical Intelligencer* **23** (3) (2001), 61–67. An account of Richard Courant's political views and actions during the German revolution of 1918–1919. The author includes excerpts from letters written by Courant to David Hilbert, among others, as well as summaries of public talks he gave in Göttingen that were published in German newspapers. (FA) #29.2.111

Mehra, Jagdish. *Einstein, Physics, and Reality*, River Edge, NJ: World Scientif c Publishing, 1999, x+156 pp. A brief exploration of Einstein's involvement in the development of quantum theory, including a discussion of his correspondence with Schrödinger and Born. See the review by Derek Raine in *Mathematical Reviews* **2001m**:81002. (GSS) #29.2.112

Meretz, Wolfgang; and Weidauer, Manfred. Die Schriften von Heinrich Schreyber. Uberblick [The Writings of Heinrich Schreyber. A Survey], in #29.2.189, pp. 143–165. (GVB) #29.2.113

Mikhailov, G. K. *See* #29.2.178.

Miller, H. R. *See* #29.2.27.

Mueller, Paul R. An Unblemished Success: Galileo's Sunspot Argument in the *Dialogue*, *Journal for the History of Astronomy* **31** (4) (2000), 279–299. Proposes an updated interpretation of Galileo's argument for the motion of the earth from the motions of sunspots and uses it to deal with three modern criticisms. (GVB) #29.2.114

Muñoz Prieto, Luis C.   *See* #29.2.57.

Murawski, Roman.   *See* #29.2.29, #29.2.65, #29.2.72, #29.2.81, and #29.2.163.

Musielak, J.   *See* #29.2.107.

Nadal, R.   *See* #29.2.152.

Nauenberg, Michael.   Newton's Expansion for the Square Root of an Algebraic Equation by an Equivalent Arithmetic Method, in Richard H. Dalitz and Michael Nauenberg, eds., *The Foundations of Newtonian Scholarship*, River Edge, NJ: World Scientif c Publishing, 2000, pp. 161–164. A presentation of a justif cation of Newton's expansion starting from Fauvel's discussion of Newton's expansion of algebraic expressions. See the review by Massimo Galuzzi in *Mathematical Reviews* **2001m**:01024. (GSS)   #29.2.115

Neuenschwander, Daniel.   Irren ist Menschlich—Oder: Der Satz über die Unimodalität Stabiler Verteilungen, ein Theorem mit einer Bewegten Geschichte [To Err is Human—Or: The Theorems on the Unimodality of Stable Distributions, a Theorem with a Colorful History], *Mathematische Semesterberichte* **46** (2) (1999), 241–247. The colorful history of the theorem on the unimodality of stable probability distributions features two false proofs and an incorrect counterexample. (GVB)   #29.2.116

Neuenschwander, Erwin.   Zur Historiographie der Mathematik in der Schweiz, *Archives Internationales d'Histoire des Sciences* **49** (143) (1999), 369–399. Begins with an overview of the development of mathematics in Switzerland, then discusses the contributions made by Swiss scholars to mathematical-historical research. (GVB)   #29.2.117

Neumann, Bernhard.   An Ancient Mathematician Remembers, *BSHM Newsletter* **43** (2001), 3–7. The author, an eminent algebraist, reminisces about his migration to England from Germany in 1933, his formal doctoral thesis under Philip Hall at Cambridge, and his subsequent appointments. (DEZ)   #29.2.118

Neumann, Bernhard.   *See also* #29.2.30.

Newstead, Anne G. J.   Aristotle and Modern Mathematical Theories of the Continuum, in Demetra Sfendoni-Mentzou, Jagdish Hattiangadi, and David M. Johnson, eds., *Aristotle and Contemporary Science*, New York: Peter Lang, 2001, vol. 2, pp. 113–129. This work argues that the three Cantorian characteristics of the continuum, "density, connectedness, and closedness," are found in the work of Aristotle, especially his *Physics*. See the review by Victor V. Pambuccian in *Mathematical Reviews* **2001k**:00006. (JA)   #29.2.119

Nicolaidis, Efthymios.   *See* #29.2.19.

Nicolas, Jean-Louis.   Arithmétique et Cryptographie**,** in Jean-Paul Pier, ed., *Development of Mathematics 1950–2000*, Basel: Birkhäuser, 2000, pp. 849–877. On the historical development of algorithms related to public-key cryptography. See the review by Edlyn E. Teske in *Mathematical Reviews* **2001j**:94039. (CJ)   #29.2.120

Odifreddi, Piergiorgio.   The Well-Numbered Clavier, in #29.2.52, pp. 106–115. (GVB)   #29.2.121

Ojeda-Aciego, Manuel.   *See* #29.2.38.

Ortiz, E. L.   Gerald James Whitrow 1912–2000, *BSHM Newsletter* **42** (2000), 16–18. Obituary of the BSHM's f rst president, Gerald Whitrow, a distinguished mathematician, historian, and philosopher known for his research in cosmology. (DEZ)   #29.2.122

Otte, Michael.   Analysis and Synthesis in Mathematics from the Perspective of Charles S. Peirce's Philosophy, in Michael Otte and Marco Panza, eds., *Analysis and Synthesis in Mathematics*, Dordrecht: Kluwer, 1997, pp. 327–362. Analyzes Peirce's indebtedness to Kant and the ways in which the meaning of fundamental Kantian notions are changed in Peirce's philosophy of mathematics. See the review by Eduard Glas in *Mathematical Reviews* **2001j**:00011. (CJ)   #29.2.123

Pambuccian, Victor V.   *See* #29.2.40, #29.2.119, and #29.2.169.

Panza, Marco.   Classical Sources for the Concepts of Analysis and Synthesis, in Michael Otte and Marco Panza, eds., *Analysis and Synthesis in Mathematics*, Dordrecht: Kluwer, 1997, pp. 365–414. Explores the Aristotelian

origin of the analytic method and traces it through various classical sources. See the review by Eberhard Knobloch in *Mathematical Reviews* **2001j**:01007. (CJ)   #29.2.124

Park, Sehie.   Ninety Years of the Brouwer Fixed Point Theorem, *Vietnam Journal of Mathematics* **27** (3) (1999), 187–222. This historical survey concerns itself mainly with equivalent forms and generalizations of the theorem. (GVB)   #29.2.125

Parthasarathy, Kalyanapuram R.   *See* #29.2.3.

Paty, Michel.   Les Trois Stades du Principe de Relativité, *Revue des Questions Scientif que* **170** (1999), 103–150. This essay divides the historical development of relativity into three stages: classical or Galilean relativity; the special relativity of Einstein; and general relativity. It is accompanied by "an almost exhaustive list of references." See the review by N. D. Sengupta in *Mathematical Reviews* **2001k:**01045. (JA)   #29.2.126

Peigné, Marc.   *See* #29.2.76.

Pepe, Luigi.   *See* #29.2.104.

Pérez Sanz, Antonio.   Polygonal Numbers: A Box of Surprises with a Lot of History [in Spanish], *Gaceta de la Real Sociedad Matemática Española* **3** (2) (2000), 331–337. Article on Pythagorean arithmetic readable by college students. See the review by Godofredo Iommi Amunátegui in *Mathematical Reviews* **2001m**:01076. (GSS)   #29.2.127

Pérez-Ilzarbe, Paloma.   *See* #29.2.177.

Petsinis, Tom.   *The French Mathematician*, New York: Berkley Books, 2000, vi+427 pp., $13.95. A novel about the life and work of Évariste Galois. (GVB)   #29.2.128

Pinkus, Allan.   Weierstrass and Approximation Theory, *Journal of Approximation Theory* **107** (2000), 1–66. The heart of this work is "a thorough discussion of the Weierstrass approximation theorem," from several early proofs to a number of generalizations. See the review by Roger L. Cooke in *Mathematical Reviews* **2001k**:01039. (JA)   #29.2.129

Plofker, Kim.   *See* #29.2.164.

Poizat, Bruno.   Autour du Théorème de Morley**,** in Jean-Paul Pier, ed., *Development of Mathematics 1950–2000*, Basel: Birkhäuser, 2000, pp. 879–896. Treats the historical development of model theory, a branch of mathematical logic, during the last half of the 20th century. See the review by Eric Jaligot in *Mathematical Reviews* **2001j**:03070. (CJ)   #29.2.130

Porres, Beatriz; and Chabás, José.   John of Murs's *Tabulae Permanentes* for Finding True Syzygies, *Journal for the History of Astronomy* **32** (2001), 63–72. Discussion of a double-argument table of John of Murs (ca. 1330) used to determine the time of a true conjunction or opposition of the Sun and Moon. Appendix contains a parallel English translation. See the review by Benno van Dalen in *Mathematical Reviews* **2001m**:01018. (GSS)   #29.2.131

Proust, Joëlle.   Bolzano's Theory of Representation, *Revue d'Histoire des Sciences* **52** (3–4) (1999), 363–383. Bolzano hoped to achieve a deep transformation of mathematical and scientif c practice through his theory, which was "one of the most radically intensionalist approaches to representation." (GVB)   #29.2.132

Puerto Albandoz, Justo.   *See* #29.2.57.

Putnam, Hilary.   *See* #29.2.58.

Radbruch, Knut.   Mathematische Spuren in der Philosophie, *Mathematische Semesterberichte* **46** (2) (1999), 135–153. Provides a selection of the inf uence of mathematics in the works of the following philosophers: Plato, Nickolaus von Kues, Kant, Schelling, Friedrich Schlegel, Hegel, and Heidegger. (GVB)   #29.2.133

Radelet-de Grave, P.   Relativité Galiléenne et Lois de Conservation, *Revue des Questions Scientif ques* **170** (1999), 209–260. "This paper traces the seventeenth-century origins of some of the basic conservation laws and their relationship with Galilean relativity." The work of Christian Huygens is prominently featured. See the review by Niccolò Guicciardini in *Mathematical Reviews* **2001k:**01025. (JA)   #29.2.134

Raine, Derek.   *See* #29.2.112.

Rankin, Robert.   Hugh Blackburn: A Little-Known Mathematical Friend of Lord Kelvin, *BSHM Newsletter* **43** (2001), 7–13. An account of the Scottish mathematician Hugh Blackburn (1823–1909), emphasizing his friendship with William Thompson (1824–1907) and relations between the Blackburn and Thompson families. (DEZ)   #29.2.135

Ransom, Peter.   Andover Those Sundials, *BSHM Newsletter* **42** (2000), 25–28. The author's search for a sundial in Andover compels him to investigate William Hawkins Heath (1787–1861). (DEZ)   #29.2.136

Rashed, Marwan.   *See* #29.2.139.

Rashed, Roshdi.   Les Commencements des Mathématiques Archimédiennes en Arabe: Banū Mūsā, in Ahmad Hasnawi, Abdelali Elamrani-Jamal, and Maroun Aouad, eds., *Perspectives Arabes et Médiévales sur la Tradition Scientifque et Philosophique Grecque*, Leuven: Peeters Éditions/Paris: Institut du Monde Arabe, 1997, pp. 1–19. The author argues that the work of the Banū Mūsā was fundamental in pointing the Archimedean tradition of quadrature and cubature in medieval Islam toward the use of point transformations. See the review by J. Lennart Berggren in *Mathematical Reviews* **2001m**:01012. (GSS)   #29.2.137

Rashed, Roshdi.   *Al-Jabr wa-al-handasah f al-qarn al-thani 'ashar: Mu'allafat Sharaf al-Dīn al-Tūsī* [in Arabic], Beirut: Markaz Dirasat al-Wahdah al-'Arabiyah, 1998, 718 pp. This book is an annotated translation into Arabic of Sharaf al-Dīn al-Tūsī's mathematical work. See the review by J. Lennart Berggren in *Mathematical Reviews* **2001k**:01017. (JA)   #29.2.138

Rashed, Roshdi.   *Les Catoptriciens Grecs. I. Les Miroirs Ardents*, with an appendix by Marwan Rashed, Paris: Les Belles Lettres, 2000, xxvi+450 pp. Arabic editions and French translations of Diocles on burning mirrors, a treatise on burning mirrors by an unidentif ed Greek mathematician, and a treatise by Anthemius of Tralles (ca. AD 600) on elliptical and parabolic burning mirrors. The Diocles contains variations from Toomer's translation, but is not necessarily an improvement. See the detailed review by Jan P. Hogendijk in *Mathematical Reviews* **2001m**:01009. (GSS)   #29.2.139

Rathie, Pushpa Narayan.   Statistics in the XXth Century: General Aspects and Applications [in Portuguese], *International Journal of Mathematical and Statistical Sciences* **9** (2) (2000), 125–157. A survey of statistics, which "has developed as a powerful combination of science, technology and logic that is used to solve problems in all areas of human enterprise." (GVB)   #29.2.140

Rav, Yehuda.   *See* #29.2.157.

Reich, Karin.   Die Entdeckung und Frühe Rezeption der Konstruierbarkeit des Regelmäßigen 17-Ecks und Dessen Geometrische Konstruktion durch Johannes Erchinger (1825) [The Discovery and Early Reception of the Constructibility of the Regular 17-gon and Its Geometric Construction by Johannes Erchinger (1825)], in Rüdiger Thiele, ed., *Mathesis: Festschrift zum Siebzigsten Geburtstag von Matthias Schramm*, Berlin: Verlag für Geschichte der Naturwissenschaften und der Technik, 2000, pp. 101–118. Presents the discovery by Gauss of the constructibility of the regular 17-gon and its further reception in the early 19th century. See the review by Doru Stefanescu in *Mathematical Reviews* **2001j**:01031. (CJ)   #29.2.141

Reignier, Jean.   À Propos de la Naissance de la Relativité Restreinte. Une Suggestion Concernant la "Troisième Hypothèse" de H. Poincaré, *Académie Royale de Belgique. Bulletin de la Classe des Sciences* **11** (2000), 63–77. The author of this paper argues for the signif cance, historically and pedagogically, of Poincaré's contributions leading to the 1904–1905 formulations of special relativity. See the review by N. D. Sengupta in *Mathematical Reviews* **2001k:**01046. (JA)   #29.2.142

Reiner, Erica.   Babylonian Celestial Divination, in #29.2.164, pp. 21–37. (GVB)   #29.2.143

Remmert, Reinhold.   Felix Klein und das Riemannsche Erbe, *Mitteilungen der Deutschen Mathematiker-Vereinigung* **2001** (1), 22–30. Article containing interesting observations on Klein by those who worked with him. Discusses Klein's contributions to understanding Riemann's revolutionary approach to mathematics. See the review by Roger L. Cooke in *Mathematical Reviews* **2001m**:01056. (GSS)   #29.2.144

Rheinboldt, W. C. *See* #29.2.33.

Rochberg, F. Babylonian Horoscopy: The Texts and their Relations, in #29.2.164, pp. 39–59. (GVB)

#29.2.145

Roero, Clara Silvia. Mathematics and International Language [in Italian], *Bollettino della Unione Matematica Italiana. Sezione A. La Matematica nella Società e nella Cultura* (8) **2** (2) (1999), 159–182. Discusses the development of universal quasi–natural languages in the period 1850–1930. See the review by Eduard Glas in *Mathematical Reviews* **2001j**:00019. (CJ) #29.2.146

Rottel, Karl. "Arithmetica Applicirt": Visierkunst, Buchhaltung, Kartographie und Astronomie bei Henricus Grammateus ["Applied Arithmetic": Measuring, Accounting, Cartography and Astronomy of Henricus Grammateus], in #29.2.189, pp. 67–89. (GVB) #29.2.147

Rouxel, Bernard. *See* #29.2.53.

Roy, Damien. *See* #29.2.184.

Runggaldier, Wolfgang J. On the Development of Applied Mathematics in an Interdisciplinary Area: Mathematical Finance [in Italian], *Bollettino della Unione Matematica Italiana. Sezione A. La Matematica nella Società e nella Cultura* (8) **2** (3) (1999), 297–316. The origins of mathematical f nance lie in economics and econometrics; more recent developments have occurred in mathematics. (GVB) #29.2.148

Ryckman, T. A. Einstein, Cassirer, and General Covariance—Then and Now, *Science in Context* **12** (4) (1999), 585–619. Cassirer's 1921 assessment of general covariance, earlier the subject of puzzling remarks by Einstein (1916), "is a 'limiting heuristic principle' guiding Einstein's fundamental conception of a 'complete f eld theory'; as such, it underlies a 'separation principle' built into the conceptual framework of the EPR criticism of quantum mechanics." (GVB) #29.2.149

Salanskis, Jean-Michel. Analysis, Hermeneutics, Mathematics, in Michael Otte and Marco Panza, eds., *Analysis and Synthesis in Mathematics*, Dordrecht: Kluwer, 1997, pp. 227–241. Argues that the classical method of analysis is closely related to hermeneutics. See the review by Eberhard Knobloch in *Mathematical Reviews* **2001j**:00013. (CJ) #29.2.150

Santos del Cerro, Jesús. A Theory About the Creation of the Modern Concept of Probability: Spanish Contributions [in Spanish], *LLULL* **23** (47) (2000), 431–450. Argues that Spanish authors, especially moral theologians, established moral probabilism, which came to be absorbed by probability theory in the 17th century. (GVB) #29.2.151

Savvidy, George K. *See* #29.2.54.

Schaefer, Bradley E. The Latitude of the Observer of the *Almagest* Star Catalogue, *Journal for the History of Astronomy* **32** (2001), 1–42. This paper is a continuation of recent efforts to contribute to the solution of the problem posed by the star catalogue (Books VII and VIII) of the *Almagest*. Also see the Jan.–Feb. 2000 Internet archives of the H-Astro forum. See the review by R. Nadal in *Mathematical Reviews* **2001k**:01009. (JA) #29.2.152

Schlote, Karl-Heinz. *See* #29.2.63, #29.2.67, and #29.2.82.

Schwartz, Laurent. *A Mathematician Grappling with his Century*, translated from the French by Leila Schneps, Basel: Birkhäuser, 2001, viii+490 pp., $44.95. English translation of the French autobiography on Schwartz's life and work. (CJ) #29.2.153

Seneta, E. *See* #29.2.155.

Sengupta, N. D. *See* #29.2.126 and #29.2.142.

Serfati, Michel. À la Recherché des *Lois de la Pensée*. Sur l'Epistémologie du Calcul Logique et du Calcul des Probabiltiés chez Boole, *Mathématiques et Sciences Humaines* **150** (2000), 41–79. A description of the epistemological genesis of Boole's logical calculus and a description of the connections Boole made between

logical calculus and probability. See the extensive review by Marcel Guillaume in *Mathematical Reviews* **2001m**:01033. (GSS) #29.2.154

Sevast'yanov, B. A. Branching Processes: A Glimpse into the Past [in Russian], *Teoriya Veroyatnosteĭ i Primeneniya* **44** (3) (1999), 692–694. A brief survey of the history of the f eld, starting with the founding of the Moscow school in 1946 and dealing with some of the political diff culties. See the review by E. Seneta in *Mathematical Reviews* **2001k**:60125. (GVB) #29.2.155

Shea, William R. *See* #29.2.89 and #29.2.189.

Sideropoulos, K. N. *See* #29.2.183.

Sieg, Wilfried. *See* #29.2.179.

Simões, Ana; and Gavroglu, Kostas. Quantum Chemistry in Great Britain: Developing a Mathematical Framework for Quantum Chemistry, *Studies in History and Philosophy of Science B. Studies in History and Philosophy of Modern Physics* **31** (2000), 511–548. This paper describes the important contributions of John E. Lennard-Jones, Douglas R. Hartree, and Charles Alfred Coulson to mathematical reformulations of quantum chemistry problems. See the review by Isabelle Catto in *Mathematical Reviews* **2001k:**01050. (JA) #29.2.156

Sinaceur, Hourya. Alfred Tarski: Semantic Shift, Heuristic Shift in Metamathematics, *Synthese* **126** (2001), 49–65. Following Hilbert's introduction, in 1922, of the term "metamathematics," Tarski's introduction of semantic methods and model theory, as described in this paper, transformed metamathematics into being a part of mathematics itself, "on a par with any other branch of mathematics." See the review by Yehuda Rav in *Mathematical Reviews* **2001k:**03004. (JA) #29.2.157

Singh, Parmanand. The *Gaṇita Kaumudī* of Nārāyaṇa Paṇḍita. Chapter IV, *Gaṇita-Bhāratī* **21** (1–4) (1999), 10–73. Translation of the fourth chapter of the Gaṇita Kaumudī (1356), dealing primarily with geometry but including some discussion of computational arithmetic, algebra, and trigonometry. See the review by A. I. Volodarskĭi in *Mathematical Reviews* **2001j**:01017. (CJ) #29.2.158

Singmaster, David. Mathematical Gazetteer of Britain #15: London Part 4: Science Museum, *BSHM Newsletter* **42** (2000), 20–24. Descriptions of mathematical holdings in the Science Museum in South Kensington. (DEZ) #29.2.159

Singmaster, David. Mathematical Gazetteer of Britain #16: London Part 5: Educational Institutions, *BSHM Newsletter* **43** (2001), 31–40. Descriptions of British mathematicians associated with educational institutions in London, including C. Wren at Gresham College, H. Savile at Eton College, and W. Burnside at the Nautical Almanac Off ce. (DEZ) #29.2.160

Smale, Stephen. *The Collected Papers of Stephen Smale*, 3 vols., edited by F. Cucker and R. Wong, Singapore: Singapore Univ. Press/River Edge, NJ: World Scientif c Publishing, 2000. Contains reprints of Smale's original papers, along with surveys of the areas in which he worked and some personal recollections. See the review by Serge L. Tabachnikov in *Mathematical Reviews* **2001j**:01061. (CJ) #29.2.161

Smithies, F. *See* #29.2.6 and #29.2.45.

Smorodinsky, Meir. Information, Entropy and Bernoulli Systems, in Jean-Paul Pier, ed., *Development of Mathematics 1950–2000*, Basel: Birkhäuser, 2000, pp. 993–1012. Historical note on the origin of the concepts of entropy, Ornstein isomorphism theory, and related developments. See the review by A. I. Danilenko in *Mathematical Reviews* **2001j**:37013. (CJ) #29.2.162

Stefanescu, Doru. *See* #29.2.35, #29.2.46, and #29.2.141.

Stens, R. L. *See* #29.2.34.

Stępińska, Ewa. On Objections of Ajdukiewicz to Hilbert's Proof of Consistency [in Polish], *Wiadomści Matematyczne* **36** (2000), 45–52. A discussion of the remarks of Poincaré and Ajdukiewicz concerning Hilbert's proofs of the consistency of arithmetic. See the review by Roman Murawski in *Mathematical Reviews* **2001m**:03006. (GSS) #29.2.163

Swerdlow, Noel M., ed. *Ancient Astronomy and Celestial Divination*, Cambridge, MA: MIT Press, 1999, x+378 pp., $49.95. Valuable collection of new research by major scholars in the field, and a good introduction to a larger body of literature on the topic; directed mainly at specialists, but also provides a good treatment of some basic historical and mathematical issues related to ancient science. The articles are listed separately in #29.2.25, #29.2.26, #29.2.68, #29.2.71, #29.2.86, #29.2.93, #29.2.143, #29.2.145, #29.2.165, #29.2.166, #29.2.171, and #29.2.185. See the review by Kim Plofker in *Mathematical Reviews* **2001j**:01006. (CJ) #29.2.164

Swerdlow, Noel M. Introduction, in #29.2.164, pp. 1–19. (GVB) #29.2.165

Swerdlow, Noel M. The Derivation of the Parameters of Babylonian Planetary Theory with Time as the Principal Independent Variable, in #29.2.164, pp. 255–298. (GVB) #29.2.166

Swerdlow, Noel M. Kepler's Iterative Solution to Kepler's Equation, *Journal for the History of Astronomy* **31** (2000), 339–341. This is a brief account of Kepler's own solution, from his *Epitome of Copernican Astronomy*, of his equation. See the review by Di Li in *Mathematical Reviews* **2001k**:01027. (JA) #29.2.167

Tabachnikov, Serge L. *See* #29.2.161.

Tarski, Alfred. Address at the Princeton University Bicentennial Conference on Problems of Mathematics (December 17–19, 1946), edited by Hourya Sinaceur, *Bulletin of Symbolic Logic* **6** (1) (2000), 1–44. First publication of a 1946 address by Tarski on decidable and undecidable problems. See the review by John W. Dawson, Jr. in *Mathematical Reviews* **2001j**:03002. (CJ) #29.2.168

Tarski, Alfred; and Givant, Steven. Tarski's System of Geometry, *Bulletin of Symbolic Logic* **5** (1999), 175–214. This "edited, richly annotated and footnoted" letter of Tarski "represents the only existing commentary on the historical development of Tarski's axiom system for geometry." (Compare with Hilbert's system in his *Grundlagen der Geometrie*.) See the review by Victor V. Pambuccian in *Mathematical Reviews* **2001k**:03019. (JA) #29.2.169

Tattersall, James J. *See* #29.2.9.

Taylor, B. A. *See* #29.2.27.

Temam, R. *See* #29.2.102.

Teske, Edlyn E. *See* #29.2.120.

Thiele, Rüdiger. Frühe Variationsrechnung und Funktionsbegriff [Early Calculus of Variations and Function Concept], in Rüdiger Thiele, ed., *Mathesis: Festschrift zum Siebzigsten Geburtstag von Matthias Schramm*, Berlin: Verlag für Geschichte der Naturwissenschaften und der Technik, 2000, pp. 128–181. The author analyzes how mathematicians regarded functions as a central concept in modern mathematics and how calculus of variations developed during the same period as the development of the function concept. See the review by Ubiratan D'Ambrosio in *Mathematical Reviews* **2001m**:01004. (GSS) #29.2.170

Thrivikraman, T. *See* #29.2.101.

Tihon, Anne. Theon of Alexandria and Ptolemy's *Handy Tables*, in #29.2.164, pp. 357–369. (GVB) #29.2.171

Todesco, Gian Marco. From the Slate to the Computer, in #29.2.52, pp. 60–68. (GVB) #29.2.172

Toepell, Michael. The Origin and the Further Development of Hilbert's *Grundlagen der Geometrie*, *Matematiche (Catania)* **55** (2000) suppl. 1, 207–226. Concise summary of more extensive published work by the author on the topic. See the review by Benno Artmann in *Mathematical Reviews* **2001j**:01033. (CJ) #29.2.173

Tournès, Dominique. Pour une Histoire du Calcul Graphique, *Revue d'Histoire des Mathématiques* **6** (2000), 127–161. "Calcul graphique" includes harmonic analysers, integraphs, planimeters, the slide rule, and nomographs. The period studied is 1790 to 1980. An extensive bibliography is included. See the review by A. D. Booth in *Mathematical Reviews* **2001k**:01005. (JA) #29.2.174

Tweddle, Ian.   Robert Alexander Rankin, 1915–2001, *BSHM Newsletter* **43** (2001), 26–31. Obituary of the leading British number theorist Robert Rankin, with a list of selected publications and brief accounts of his writings on the history of mathematics. (DEZ)   #29.2.175

Ullrich, Peter.   Emil Artins Unveröffentlichte Verallgemeinerung seiner Dissertation [Emil Artin's Unpublished Generalization of His Dissertation], *Mitteilungen der Mathematischen Gesellschaft in Hamburg* **19** (2000), 173– 194. A description of Artin's generalization of his work on rational functions over f nite f elds to more general f nite f elds in which he could prove special cases of the Riemann hypothesis in this setting. Artin never published the work since Hilbert initially dismissed it. See the review by Jeremy Gray in *Mathematical Reviews* **2001m**:01038. (GSS)   #29.2.176

Ursic, Marko.   Paraconsistency and Dialectics as Coincidentia Oppositorum in the Philosophy of Nicholas of Cusa, *Logique et Analyse (N. S.)* **41** (161–163) (1998), 203–217. A revision of some conclusions of Priest concerning "coincidence of opposites." An attempt to understand the system of Nicholas of Cusa from the point of view of modern logic. See the review by Paloma Pérez-Ilzarbe in *Mathematical Reviews* **2001m**:01019. (GSS)   #29.2.177

Vakulenko, A. A.; and Mikhailov, G. K.   Clifford Truesdell and the Modern History of Mechanics [in Russian], *Voprosy Istorii Estestvoznaniya i Tekhniki* **2000**, 59–66. In addition to a short biographical study of Clifford Truesdell, this is an evaluation of the importance of his contributions to the history and current study of mechanics. See the review by B. D. Jovanovic in *Mathematical Reviews* **2001k**:01051. (JA)   #29.2.178

Van Dalen, Benno.   *See* #29.2.131.

Van Dalen, Dirk.   Brouwer and Fraenkel on Intuitionism, *Bulletin of Symbolic Logic* **6** (3) (2000), 284–310. Relates the interaction between Brouwer and Fraenkel in the 1920s, based largely on unpublished documents; sheds light on Brouwer's development of intuitionism as well as his somewhat diff cult personality. See the review by Wilfried Sieg in *Mathematical Reviews* **2001j**:01035. (CJ)   #29.2.179

Van der Waerden, B. L.   *Science Awakening* [in Greek], translated and edited by Giannes Christianides, Heraklion: Panepistemiakes Ekdoseis Cretes, 2000, xxvi+370 pp. A translation into Greek of the 1988 edition of this 1950 classic. (GVB)   #29.2.180

Van Egmond, Warren.   *See* #29.2.31, #29.2.60, and #29.2.79.

Van Rootselaar, Bob.   *See* #29.2.22.

Venator, Johannes.   *Logica* [in Latin], 2 vols., edition by L. M. de Rijk, Stuttgart: Friedrich Frommann Verlag Günther Holzboog, 1999, 335 and 270 pp., DM 590. Venator was an inf uential member of the school of Oxford logic during the second half of the 14th century. These two volumes are critical editions of his *Logica* "meticulously produced" from two manuscripts by L. M. de Rijk. See the reviews by Philip A. Beeley in *Mathematical Reviews* **2001k:**01021a and **2001k:**01021b. (JA)   #29.2.181

Vershik, A. M.   Vladimir Abramovich Rokhlin [1919–1984], in V. Turaev and A. Vershik, eds., *Topology, Ergodic Theory, Real Algebraic Geometry*, Providence, RI: American Mathematical Society, 2001, pp.1–10. Article on the life and work of Vladimir Abramovich Rokhlin. Rokhlin was out of favor with the Communist regime and was forced to accept positions unbef tting his talents. Rokhlin worked with Pontryagin and Aleksandrov. See the review by Roger L. Cooke in *Mathematical Reviews* **2001m**:01060. (GSS)   #29.2.182

Viterbi, A. J.   *See* #29.2.69.

Vogel, Kurt.   Uses of Letters and Indian Numerals in Byzantium [in Greek], translated from the German by K. N. Sideropoulos, *Neusis* **5** (1996), 75–81. This 1958 paper is translated and reprinted here as the source of inspiration of a subsequent article by Jean Christianidis (#29.2.37). (GVB)   #29.2.183

Volodarskiĭ, A. I.   *See* #29.2.158.

Waldschmidt, Michel.   Un Demi-Siècle de Transcendance, in Jean-Paul Pier, ed., *Development of Mathematics 1950–2000*, Basel: Birkhäuser, 2000, pp. 1121–1186. A thorough review of the theory of transcendental numbers and Diophantine approximation from 1950 to 2000, including an extensive bibliography. See the review by Damien Roy in *Mathematical Reviews* **2001k:**11130. (JA)   #29.2.184

Walker, C. B. F.   Babylonian Observations of Saturn during the Reign of Kandalanu, in #29.2.164, pp. 61–76. (GVB)   #29.2.185

Wallis, Ruth.   More Publicly-Owned Rare Mathematical Works under the Auctioneer's Hammer, *BSHM Newsletter* **43** (2001), 16–19. Rare books on mathematics continue to be sold in England, this time by a municipal library in Newcastle upon Tyne. (DEZ)   #29.2.186

Wang, Yusheng.   Hua Hengfang: Forerunner and Disseminator of Modern Science in China, in Dainian Fang and Robert S. Cohen, eds., *Chinese Studies in the History and Philosophy of Science and Technology,* Dordrecht: Kluwer, 1996, pp. 369–393. A scientif c biography of Hua Hengfang (1833–1902), whose contributions spanned mineralogy, geology, and mathematics. See the review by Di Li in *Mathematical Reviews* **2001k:**01064. (JA)   #29.2.187

Wang, Yusheng.   Li Shanlan: Forerunner of Modern Science in China, in Dainian Fang and Robert S. Cohen, eds., *Chinese Studies in the History and Philosophy of Science and Technology*, Dordrecht: Kluwer, 1996, pp. 345–368. This extensive biography of Li Shanlan (1811–1882) describes in detail his mathematical research, the roles he played in "westernizing movements" in science, technology, and politics, his teaching, and his poetry and prose writings. See the review by Di Li in *Mathematical Reviews* **2001k:**01063. (JA)   #29.2.188

Weidauer, Manfred, ed.   *Heinrich Schreyber aus Erfurt, genannt Grammateus. Festschrift zum 500. Geburstag*, Munich: Institut für die Geschichte der Naturwissenschaften, 1996, 165 pp. A collection of papers on Grammateus, the author of several important early 16th century "Rechenbuchern." The papers are listed separately as #29.2.50, #29.2.59, #29.2.95, #29.2.113, #29.2.147, #29.2.190, and #29.2.191. See the review by William R. Shea in *Mathematical Reviews* **2001k:**01023. (JA)   #29.2.189

Weidauer, Manfred.   Zu den Rechenbuchern von Heinrich Schreyber [On the Arithmetic Books of Heinrich Schreyber], in #29.2.189, pp. 93–107. (GVB)   #29.2.190

Weidauer, Manfred.   Heinrich Schreyber—aus Erfurt oder aus Herbsleben? [Heinrich Schreyber—From Erfurt or from Herbsleben?], in #29.2.189, pp. 111–114. (GVB)   #29.2.191

Weidauer, Manfred.   *See also* #29.2.113.

Weinstock, Robert.   Inverse-Square Orbits in Newton's *Principia* and Twentieth Century Commentary Thereon, *Archive for History of Exact Sciences* **55** (2000), 137–162. In 1982, the author initiated a very high level debate by denying that, in the *Principia*, Newton actually produced a rigorous proof of the inverse–square law. This paper carefully summarizes the scientif c details of this debate over the past 18 years. See the review by Niccolò Guicciardini in *Mathematical Reviews* **2001k:**01028. (JA)   #29.2.192

Wilson, N. G.   Archimedes: The Palimpsest and the Tradition, *Byzantinische Zeitschrift* **92** (1) (1999), 89–101. Discusses the history of the palimpsest containing Archimedes's *Method*, but does not treat the mathematics contained therein. See the review by Louis Charbonneau in *Mathematical Reviews* **2001j:**01008. (CJ)   #29.2.193

Wilson, Robin J.   *See* #29.2.14.

Wnuk, Witold.   *See* #29.2.107.

Wolters, Gereon.   Die Pragmatische Vollendung des Logischen Empirismus. In Memoriam Carl Gustav Hempel (1905–1997) [The Pragmatic Completion of Logical Empiricism. In Memoriam Carl Gustav Hempel (1905–1997)], *Journal for General Philosophy of Science* **31** (2) (2000), 205–242. Discusses Hempel's contributions to central matters in philosophy of science and places Hempel's work within the history of logical empiricism. (CJ)   #29.2.194

Xu, De Yi.   The Computations of π, *Journal of Central China Normal University. Natural Sciences* **34** (3) (2000), 376–378. A brief history of methods of computing π and their signif cance. (GVB)   #29.2.195

Yor, Marc.   Le Mouvement Brownien: Quelques Développements de 1950 à 1995, in Jean-Paul Pier, ed., *Development of Mathematics 1950–2000*, Basel: Birkhäuser, 2000, pp. 1187–1202. A survey of developments in the theory of Brownian motion, concentrating especially on the multiple points and the geometry of Brownian motion

on $\mathbf{R}^2$ and on attempts to def ne a meaningful self-avoiding Brownian motion. See the review by F. B. Knight in *Mathematical Reviews* **2001k**:60116. (GVB)   #29.2.196

Yuan, Min.   A Comparative Study Between the Indian Sine Table and the Tangent Table of the Buddhist Monk Yi Xing [in Chinese], *Journal of Northwest University* **30** (5) (2000), 446–449. Concludes that the tangent table of the Chinese 8th-century Buddhist monk Yi Xing did not rely on the Indian sine table in the Jiuzhi Calendar. (GVB)   #29.2.197

Zayed, Ahmed I.   *See* #29.2.34.

Zerner, M.   *See* #29.2.66.

Zhedanov, Alexei.   *See* #29.2.97.

Zitarelli, David E.   *EPADEL: A Semisesquicentennial History, 1926–2000*, Elkins Park, PA: Raymond-Reese Book Co., 2001, paperbound, 210 pp. A history of one of 29 sections of the Mathematical Association of America, viewed as a microcosm of the American mathematical community in the 20th century. (DEZ)   #29.2.198